

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

BRUCE DOLFMAN	:	CIVIL ACTION
ADMINISTRATOR OF THE	:	
ESTATE OF LIZ ZHEN	:	
DECEASED	:	
	:	
Plaintiff,	:	
	:	No. 13-2831 <b>LEAD CASE</b>
v.	:	No. 13-6172
	:	
ZACHARY EDWARDS, et al.	:	
Defendants.	:	

**MEMORANDUM**

**TIMOTHY R. RICE**  
**U.S. MAGISTRATE JUDGE**

**June 2, 2015**

This case concerns defendants’ liability for a fatal accident in which plaintiff Li Zhen was struck by a vehicle operated by Zachary J. Edwards, an employee of defendant R.J. Skelding Co. Defendants offer Dr. Francis as an expert in “visual and human factors” to opine on how various physical and environmental factors may have affected the ability of plaintiff to see Edwards’ vehicle and the ability of Edwards to see plaintiff in the pre-dawn hours. Plaintiff claims Dr. Francis’ qualifications and methodology violate Federal Rule of Evidence 702.

Rule 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

I must act as a gatekeeper to ensure that expert testimony is both relevant and reliable.

See Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 589 (1993). This requires

inquiry into various factors, such as: (1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put. Pineda v. Ford Motor Co., 520 F.3d 237, 247-48 (3d Cir. 2008).

Under the liberal standard for determining qualifications, Holbrook v. Lykes Bros. S.S. Co., Inc., 80 F.3d 777, 782 (3d Cir. 1996), Dr. Francis is qualified based on her extensive academic experience and ongoing work as a consultant in the field of human factors. See Ex. 1 (Curriculum Vitae); Ex. 3 (List of cases involving Dr. Francis' expert testimony). Plaintiff raises significant concerns about the breadth of Dr. Francis' experience, e.g., the lack of scholarly publications and peer-reviewed research for the past 20 years, and her lack of recent practical experience. Such issues, however, are relevant to the weight the jury should give her testimony, not admissibility. See Fed. R. Evid. 702, 2000 Amendments Advisory Committee Notes ("Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.").

Although testimony related to "human factors" could be susceptible to attributing blame based on an expert witness' subjective and vague notions of propriety, see Durkin v. Wabash Nat., No. 10-2013, 2013 WL 1314744, at \*16 (D.N.J. Mar. 28, 2013) (application of human factors principles can be highly subjective and conveniently malleable), Dr. Francis has outlined an acceptable methodology for her conclusions. She reviewed the lighting conditions, weather

conditions, medical records, police reports, expert reports, and Edwards' deposition testimony. She then applied those factors to the physiological process of perception and gave her opinion as to how quickly objects could be perceived under the reported conditions. See Ex. 2 (Dr. Francis' report) at 5-10. This constitutes a reliable methodology that fits this case, which features a pre-dawn automobile/pedestrian fatality. See Calhoun v. Yamaha Motor Corp., U.S.A., 350 F.3d 316, 322 (3d Cir. 2003) (district court properly permitted an expert to testify about the general description of an alleged defect given the expert's "general knowledge of human factors engineering, along with his review of the record evidence"); see also Durkin, No. 10-2013, 2013 WL 1314744, at \*17-18 (human factors expert's methodology reliable).

Dr. Francis' testimony may help the jury ascertain when and how clearly the parties could have perceived each other in the seconds before the accident. Although it may appear somewhat intuitive, the process and timing of human perception at various speeds and under pre-dawn lighting conditions is beyond the expertise of jurors. Accordingly, Dr. Francis' testimony does not suffer from the defects of other proposed experts who have attempted to use human factors' principles to opine on product safety despite having no technical or practical experience in engineering, product safety, or product design. Compare Fedor v. Freightliner, Inc., 193 F. Supp. 2d 820 (E.D. Pa. 2002) (excluding human factors expert's testimony on certain subjects outside the scope of his expertise, but allowing it on others supported by demonstrated methodology against which the opinion could be tested), and Hamilton v. Emerson Elec. Co., 133 F. Supp. 2d 360 (M.D. Pa. 2001) (human factors expert's testimony unreliable because he lacked firsthand experience and did not use any discernible methodology), with Medina v. Daimler Trucks N. Am., LLC, No. 10-623, 2014 WL 7405210, at \*1 (D.N.J. Dec. 30, 2014) (human factors expert sufficient to survive a Daubert challenge).

Nevertheless, during the May 29, 2015 Daubert hearing, Dr. Francis offered some testimony that exceeded the scope of her expertise. For example, she “interpreted” the deposition testimony of Edwards by altering his actual words about when, where, and how he first perceived plaintiff. Dr. Francis substituted her opinions about what Edwards would have seen for Edwards’ actual testimony of what he did see. Such “interpretations” highlight the dangers of unlimited testimony on human factors. Those “interpretations” have no valid methodology and are not helpful to the jury. To the extent Dr. Francis’ “interpretations” have any marginal probative value, they are substantially outweighed by the risk that the jury will be confused by Edwards’ testimony and Dr. Francis’ conflicting “interpretation” of Edwards’ words. See Fed. R. Evid. 403.

Similarly, although Dr. Francis will be permitted to offer testimony concerning the reaction time and perception time each party likely had under the environmental conditions, distance, personal characteristics, and dynamics surrounding the fatal accident, other aspects of her testimony would confuse the jury and are precluded. For example, Dr. Francis will not be permitted to opine that Edwards’ eye disorder, Retinoschisis,<sup>1</sup> did not limit his ability to perceive and react. Dr. Francis is not a licensed ophthalmologist, has not practiced in the field since 2004, and her expertise in assessing human factors does not qualify her to offer expert medical testimony. To the extent her opinion on Edwards’ Retinoschisis has any marginal probative value, such testimony is substantially outweighed by the risk that the jury will be confused by conflicting testimony about Edwards’ vision impairment, the driving restrictions imposed on

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<sup>1</sup> Retinoschisis is a “splitting of the retina.” Dorland’s Illustrated Medical Dictionary, (32<sup>nd</sup> ed. 2012) at 1635.

Edwards by the Commonwealth of Pennsylvania,<sup>2</sup> and Dr. Francis' speculative opinion of the impairment's impact on Edwards' ability to perceive the plaintiff. See Fed. R. Evid. 403.

Finally, during the Daubert hearing, Dr. Francis' testimony sometimes encroached on accident reconstruction. She has no expertise in this field and is not permitted to offer opinions that reconstruct the accident scene for the jury. Moreover, the value of such testimony is substantially outweighed by the risk of jury confusion about the scope of her expertise, which is limited to estimating human perception and reaction under certain environmental and physical conditions. See Rule 403.

An appropriate order follows.

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<sup>2</sup> Edwards has a Pennsylvania driver's license which restricts him to daylight driving only. See Pl.'s Motion (doc. 143), Ex. A.